

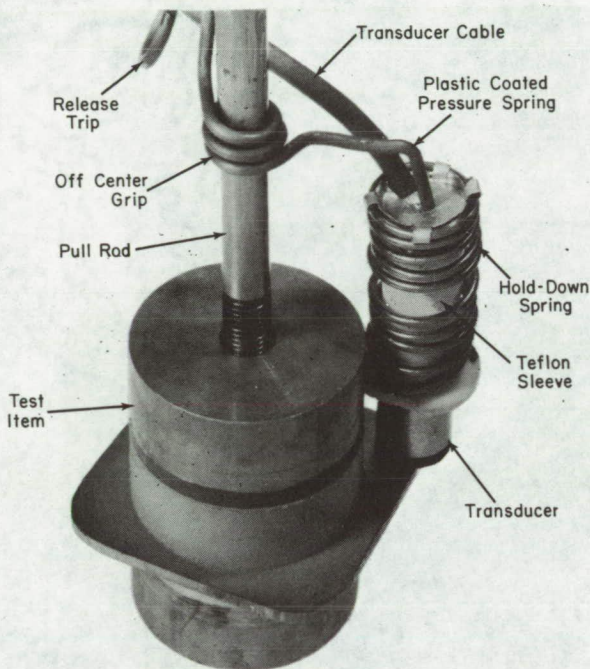
NASA TECH BRIEF

Manned Spacecraft Center



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Quick Release Acoustic Sensor Holding Fixture



set-up using the sensor holding fixture for recording the the acoustic emission from a specimen of cryogenic insulation bonded to aluminum. This device allows reuse of the acoustic sensor, thus lowering the cost of each test.

How it's done:

A viscous, coupling compound applied to the contact surface of the acoustic sensor insures surface to surface contact. Advancing the pressure spring on the holding device applies proper pressure between the acoustic sensor and the item under test. The off-center grip automatically maintains the applied pressure during test. A push on the release trip quickly lifts the acoustic sensor off the test item without damaging the sensor or the test item. The pull rod can be modified easily as required for different test items.

Note:

No additional documentation is available. Specific questions, however, may be directed to:

Technology Utilization Officer
Manned Spacecraft Center, Code JM7
Houston, Texas 77058
Reference: TSP72-10076

The problem:

To eliminate adhesive bonding of an acoustic sensor to a test material and still achieve accurate acoustic emission evaluation from tensile tests. This would reduce the cost of each test since the sensors could be reused.

The solution:

A quick-release spring holder secures the acoustic sensor (transducer) to the test material surface without adhesive bonding. The illustration shows a typical test

Patent status:

No patent action is contemplated by NASA.

Source: William McMahon and Emil S. Scherba
North American Rockwell Corp.
under contract to
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Category: 02